Health Science Education Standards
Biology

Health Science Standard:

Standard 1.0
The student will know how and apply the academic subject matter required for entrance within Health Science.

Standard 1.4
The student will employ principles of growth and development, nutrition, and biology in assessing health care.

Academic Standard:

2.3 Conduct activities to examine cell structure and functions.

Competency:

Select and construct a specific type of human cell and identify (label) organelles and functions of each part. Also describe the function of the selected cell. Students will utilize materials for cell construction of their choice.

Compare and contrast growth and development of the cell.

Skill:

Students will make a presentation to the class presenting the selected cell relating form to function. Evaluation of knowledge, proper terminology by teacher using HOSA Medical Spelling competition guidelines and Medical Terminology guidelines, evaluate student performance).
Students will label cell parts (organelles) and discuss functions.

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Health Science Standard:

Standard 2.0

Students will explain the various methods of giving and obtaining information. They will demonstrate usage of all forms of communication and evaluate roles and responsibilities.

Academic Standard:

2.1 **Identify the characteristics and properties of "living" things.**

1.3 **Use appropriate tools and technologies to investigate scientific problems.**

1.4 **Use appropriate process skills: estimating, inferring, calculating, classifying, constructing graphs and tables, identifying and controlling variables, questioning, interpreting, measuring, observing, describing, predicting, concluding and verifying results.**

Competency:

TSW explain why communication is important.
TSW differentiate between verbal and nonverbal communication.
TSW demonstrate appropriate listening skills.

Skill:

Students will role-play identifying verbal and nonverbal communication. The students will list and categorize the types of communication identified (Have 1 student portray a terminally ill, hearing impaired, Spanish speaking patient.

Students will write a procedure for constructing a peanut butter and jelly cracker. The student will read these instructions to a lab partner who must construct the peanut butter and jelly cracker exactly utilizing appropriate listening skills.

HOSA members will participate in the Administrative Medical Assisting competition. (Written exam – interpersonal communications – 20%).

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Health Science Standard:

Standard 3.0
The student will understand how the health care workers' roles fit into their department, organization, and overall health care environment. They will demonstrate how key systems affect services they perform and quality of care given.

Standard 3.1A
The student will be able to diagram a flow chart of services offered to clients/patients.

Academic Standard:

2.5 Solve basic genetic problems including sex-linkage, multiple alleles and pedigrees.

Competency:

A report will be completed on a genetic disorder. A genetic disorder will be chosen and a report completed that includes how a disorder is inherited, the effects of the disorder, and the impact of the disorder on the family members. Investigate the resources available for those affected. A flow chart of services available to these patients/clients will be prepared. A presentation will be made to the class using Power Point or another appropriate visual aid.

Skill:

Students will present an oral report on a genetic disorder using visual aids. Students will prepare a flow chart to identify services available to the patient/client.

Evaluate presentation: Use rubrics from Extemporaneous Health Display, Prepared Speaking, or Career Health Display as appropriate.

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Health Science Standard:

Standard 4.0
The student will analyze how employability skills enhance employment opportunities and job satisfaction. They will demonstrate key employability skills and procedures/training to maintain skills as needed for the job market.

Standard 4.1
The student will demonstrate employability skills such as attendance, time management, individual responsibility, professional conduct, and appearance.

Standard 4.5
The student will compare various career options in each health care cluster and the required education, certification, licensure and registries.

Academic Standard:

5.1 Convey scientific information using illustrations, effective communication skills, mathematical concepts and a variety of technologies.

Competency:

Research a career opportunity including educational requirements in an area related to Health Science and Biology using a career Health Display, Career Fair, shadowing, presentation, taped interview or scheduled speaker. Discuss employability skills including job interviews, resumes, application completion, attendance/punctuality, etc. Discuss the importance of Science, Math, and English in the job.

Skill:

Students will research a career opportunity in an area related to Health Science and Biology. Students will role-play employability skills showing positive and negative examples.

Evaluate presentation: Use rubrics from Career Health Display, Job Seeking Skills and Interview Skills as appropriate.

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Health Science Standard:

Standard 5.0
The student will evaluate legal responsibilities, limitations, and implications of actions within the health care delivery system. They will perform duties according to regulations, policies, laws, and rights of clients.

Standard 5.5
The student will examine global, ethnic and cultural issues, negligence, and legal documentation.

Academic Standard:

6.1 Analyze and predict how the impact of human activities and technology affect the environment and the earth's resources.

6.2 Analyze and predict the ethical consequences involved in the use of scientific knowledge and technology.

Competency:

Provide students with case studies of actual court cases related to environmental causes of disease. The students will read, review, and discuss cases as a class. Without knowing case results, the students will decide on court judgement. Debate the issues. Students will write a paragraph supporting their decision.

Skill:

Evaluate written paper supporting students' decision.

Students will debate using rubric for Biomedical Debate. (HOSA)

Health Science Education Standards
Biology

Health Science Standard:

Standard 6.0
The student will evaluate accepted ethical practices with respect to cultural, social, and ethnic differences within the health care environment.

Standard 6.1
The student will compare the needs of clients/patients who have cultural, social, and ethical differences in regard to the Patient's Bill of Rights.

Standard 6.2
The student will analyze activities that adversely affect the health, safety, or welfare of clients/patients.

Standard 6-3
The student will interpret a Code of Ethics.

Academic Standard:

2.1 Identify the characteristics and properties of "living" things.

Competency:

Investigate issues in transplantation such as cost, availability, organs that can transplant, number of transplants for one person, decisions regarding who gets the organ, rejection rate, compliance, geographics, cloning for transplants, and stem cells transplant.

A guest speaker from an organ transplant team could come in.

Skill:

The students will complete a Community Awareness Project to present to wellness classes. Evaluation will be by rubric from Community Awareness Project. (HOSA)

Health Science Education Standards
Biology

Health Science Standard:

Standard 7.0
The student will analyze the existing and potential hazards to clients, co-workers, and self. They will prevent injury or illness through safe work practices and follow health and safety policies and procedures.

Standard 7.3
The student will demonstrate cleaning methods for instruments, equipment, and environmental surfaces.

Standard 7.4
The student will employ emergency procedures and protocols regarding fire and electrical hazards and hazardous materials, using health care guidelines such as OSHA standards.

Standard 7.5
The student will analyze various situations to document and correct risks to safety including human error, environmental risks and attitudes.

Academic Standard:

1.2 Know and apply the basic rules of lab safety.

1.3 Use appropriate tools and technologies to investigate scientific problems.

Competency:

Complete a safety school survey using a safety checklist from textbook, health department, or school system. Take students during class periods to observe and recognize safety hazards throughout the school; making a list of their findings.

Skill:

Students will:
1. **Develop solutions to fix the safety hazard or prevent the hazard.**
2. **Write an article to be submitted to the school newspaper or prepare a video for news on school channel.**

Use Creative Problem Solving rubric.

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Health Science Standard:

Standard 8.0
The student will apply the responsibilities necessary to become a member of the HOSA team.

Standard 8.2A
The student will diagram the organizational levels of HOSA.

Academic Standard:

5.1 Convey scientific information using illustrations, effective communication skills, mathematical concepts and a variety of technologies.

Competency:

Students will present information to Biology students about organizational levels of HOSA with emphasis on Associate membership. Do a display board with statistics showing scholarships received by HOSA students and/or other accomplishments of HOSA students gained through membership in HOSA.

Biology students will include a use of technologies used in health care and how health careers use Biology. They may use poster, Power Point presentations, display boards, etc.

Skill:

Evaluation would be using the rubrics for Prepared Speech, Extemporaneous Health Display or Career Health Display.

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Health Science Standard:

Standard 9.0
The student will perform skills necessary for physical assessment of health status.

Standard 9.4
The student will perform health assessment including measures such as height, weight, nutritional analysis, and psychosocial skills.

Academic Standard:

2.2 Investigate the biochemistry of carbohydrates, lipids, proteins, and nucleic acids.

Competency:

Keep a log of total dietary intake for one week. Prepare student health profile including weight, height, body fat, frame size determination, feelings at the time of eating, etc. Discuss cultural, social, religious, and psychological influences.

Skill:

Students will evaluate fellow students' logs for calories, carbohydrates, fats, and proteins using the food pyramid. Students will convert height and weight measurements to the metric system. (2.2 lb. = 2.54 cm)
Evaluation will be made using Height and Weight Skill Checklist from Diversified Health Occupations Book.